

ARIZONA DEPARTMENT OF FORESTRY AND
FIRE MANAGEMENT



WILDLAND FIRE ANNUAL

REPORT 2021



CREATING AN ARIZONA WITH SAFE PEOPLE AND COMMUNITIES, AND A HEALTHY AND VIBRANT
ENVIRONMENT WHERE NATURAL RESOURCES ARE MANAGED FOR MULTIPLE BENEFITS

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AGENCY OVERVIEW

The mission of the Department of Forestry and Fire Management is to foster, maintain, and enhance collaboration with partners, stakeholders, and cooperators to: proactively promote the health and safety of Arizona's forests, woodlands, deserts and watersheds; encourage fire-adapted communities; provide leadership and oversight of resources in wildfire response; and ensure fire safety in public buildings through the enforcement of the state fire code.

FINANCIAL HIGHLIGHTS

FY 2021 Fire Suppression

Budget: \$23,000,000

Actual Spent - \$15,778,787

FY 2020 Fire Suppression

Budget: \$4,000,000

Actual Spent - \$12,330,891

For FY 2020, DFFM was appropriated a \$4 million dollar wildland fire suppression budget. However, during FY 2021, a special legislative session approved additional suppression funding for the department. Under House Bill 2001, the agency was allocated an additional \$19 million due to ever-increasing wildland firefighting costs. Suppression costs continue to climb as large-scale, long duration incidents increase every year. Aircraft is a major component of costs, but critical in certain circumstances to protect property and people. Rising costs for cooperating fire departments and district personnel and equipment also play a factor in increasing suppression costs.

AGENCY HIGHLIGHTS

FY 2021:

Full Time Employees: 210

FY 2020:

Full Time Employees: 88

- DFFM provides fire protection of 22-million acres of State Trust and private lands
- 5 Districts offices; Northern, Northeastern, Southern, Central and Northwestern
- 12 - Type 2 Wildland Fire Inmate Hand Crews (approx. 240 personnel)
- 1 - Type 2-IA Hand Crew (20 personnel)
- Established UAS program
- Fixed-Wing Aviation Program
- Through cooperative agreements, DFFM has access to 2,700 fire department and district wildland firefighters and 3,000 pieces of equipment
- Arizona Dispatch Center - state dispatching center



EXECUTIVE SUMMARY

Entering the Spring of 2021, the wildland fire season presented a set of challenges and a bleak outlook due to many factors. The state was experiencing exceptional and extreme drought across most of Arizona, there was a nuisance carryover of fine fuel in areas that were not consumed the prior year, plus a lingering La Nina was forecasted through early summer complete with warmer-than-normal temperatures and little to no precipitation.

While 2020 was one of the worst fire seasons in the last ten years in Arizona, fire behavior analysts and forecasters predicted a similar situation in 2021; early fire activity, extreme fire behavior and widespread, statewide activity by June. That outlook morphed into reality. In May, the Flag Fire started near Pine Lake in the northwestern part of the state.

By June, Gila County was experiencing severe fire activity across the Globe-Miami corridor with the 180,000-acre Telegraph Fire, the nearby Mescal Fire, and the Pinnacle Fire by Safford. The high country was also dealing with a handful of wildfires that forced numerous evacuations from the Backbone Fire in the Pine-Strawberry-area and the Rafael Fire near the resort town of Sedona. By the end of June, more than 300,000 acres of Arizona state and federal lands were burning.

Lingering COVID-19 conditions presented additional challenges in 2021. To help minimize potential spread and possible camp outbreaks, equipment was prepositioned to provide for faster initial attack and aircraft usage was increased to help minimize the amount of boots on the ground.



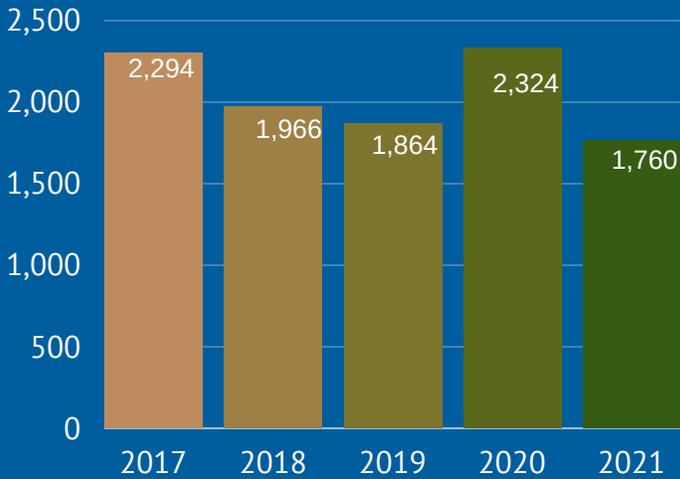
EXECUTIVE SUMMARY CONT.

Prevention was another key component of the 2021 season. While prevention is always a top priority, the increase in fire patrols, immediate fire restrictions and closures helped decrease fire activity in certain areas. By June, all State Trust Land was closed for recreational purposes, along with most National Forest lands. DFFM along with its federal counterparts, including the USDA Forest Service, the Bureau of Land Management, US Fish and Wildlife and the Bureau of Indian Affairs, worked in conjunction to increase prevention messaging early in the year through billboards, roadside signs and social media campaigns. DFFM also spent additional prevention dollars to target at-risk, problem areas prone to ignitions every year through prevention signage and additional patrols.

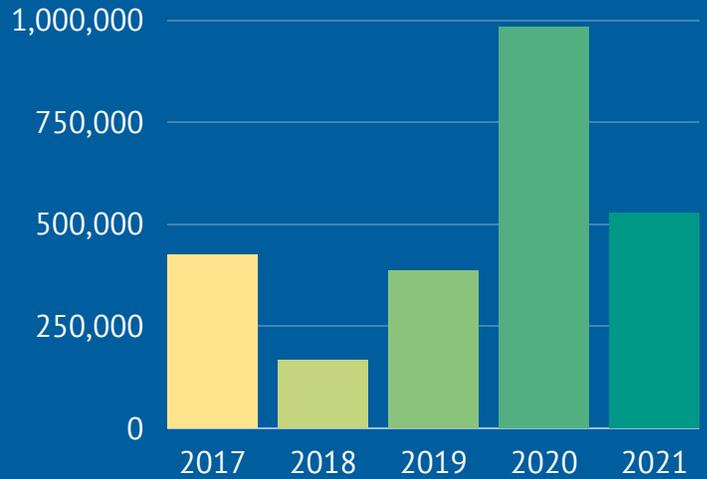


April's Margo Fire in Dudleyville destroyed dozens of primary and secondary structures

2021 FIRE DATA

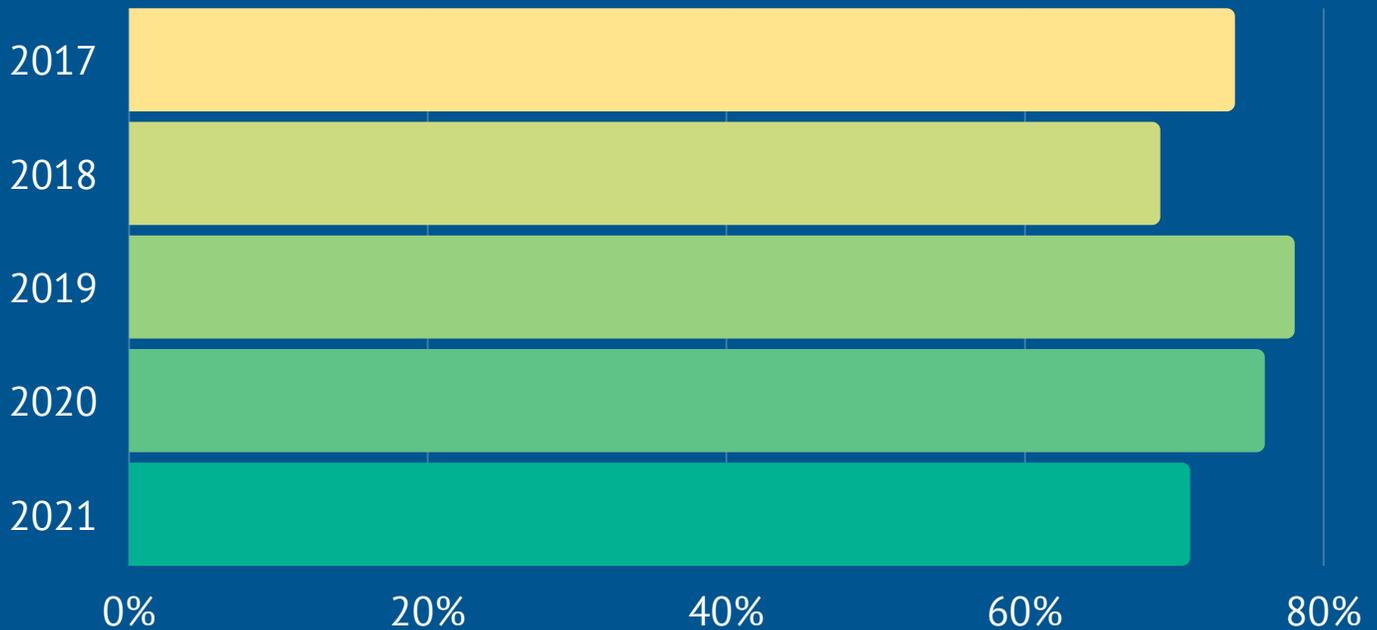


AMOUNT OF WILDFIRES



ACRES BURNED

HUMAN-CAUSED WILDFIRES



This data encompasses state, federal and tribal lands throughout Arizona.



2021 FIRE DATA SUMMARY

In 2021, the Department of Forestry and Fire Management, along with its local and federal cooperators, responded to 1,760 wildland fires on all land jurisdictions for a total of 524,428 acres burned. Comparatively to 2020, 2,427 reported wildfires burned nearly 1 million acres.

Had it not been for an active, vigorous monsoon season, it is likely 2021 could have seen additional fire activity through the fall as experienced the prior year. In 2021, human-caused fires contributed to 71% of the state's wildland fires. Down only 5% compared to 2020.

Every year, most of the state jurisdictional fires stem from human-caused activity; including mechanical usage on private property, like welding, grinding, and torches.

Target shooting and unsecured tow chains are also leading causes of wildfires within DFFM response areas. Campfire starts are more prevalent on federal lands due to the high amount of recreation within the federal forests.

Target shooting on State Trust Land is prohibited. Yet, every year, DFFM continues to investigate wildland fires caused by this activity. To combat these and other potential ignitions, increased prevention patrols and DFFM's new 'No Target Shooting' signage in high risk areas have helped decrease foot traffic onto State Trust Lands. However, illegal encampments remain prevalent within certain areas of State Trust Lands and present a huge concern in regards to wildland fire risk.

2021 NOTABLE FIRES

MARGO FIRE - 1,148 ACRES

April 8, Dudleyville, Pinal County. 43 primary and secondary structures destroyed

FLAG FIRE - 1,265 ACRES

April 25, Pine Lake, Mohave County

MESCAL FIRE - 72,250 ACRES

June 1, Globe-area, Gila County. Multiple structures and infrastructure destroyed and damaged

TELEGRAPH FIRE - 180,757 ACRES

June 4, Globe/Miami-area, Pinal and Gila Counties. Multiple structures and infrastructure destroyed and damaged

BACKBONE FIRE- 40,855 ACRES

June 16, Pine-Strawberry, Gila County

RAFAEL FIRE- 70,065 ACRES

June 18, Perkinsville, Yavapai County

FEDERAL EMERGENCY MANAGEMENT (FEMA) FIRES

The Arizona Department of Forestry and Fire Management, at times, relies on the federal government for financial support on qualified wildland fire incidents. The agency can submit for a Fire Management Assistance Grant (FMAG) to help with 75% reimbursement for certain costs incurred during a wildfire. FMAG's can only be obtained when a wildfire is actively burning, threatening homes and infrastructure, with possible destruction of communities.

2021 FMAGs:

Margo Fire - Pinal County: Costs undetermined at this time

Spur Fire - Yavapai County: Costs undetermined at this time

Telegraph Fire - Gila and Pinal Counties: Costs undetermined at this time

2020 FMAGs:

Aquila Fire - Maricopa County

Total Fire Cost - \$632,950

FMAG - \$460,930

73% reimbursement

Bighorn Fire - Pima County*

DFFM Fire Cost - \$15,084,810

FMAG - \$9,126,892

61% reimbursement

Avondale Fire - Maricopa County

Total Fire Cost - \$104,764

FMAG - \$65,179

62% reimbursement

East Desert Fire - Maricopa County

Total Fire Cost - \$706,224

FMAG - \$500,999

71% reimbursement

Bush Fire - Maricopa and Gila Counties*

DFFM Fire Cost - \$1,365,284

FMAG - \$666,293

49% reimbursement

Ocotillo Fire - Maricopa County

Total Fire Cost - \$1,229,331

FMAG - \$898,825

73% reimbursement

*Indicates Cost Share Fire



AVIATION

The Department of Forestry and Fire Management's Fixed Wing Aviation Program provides Single Engine Air Tankers, or SEATs, and an Air Attack Platform to support state, federal and tribal wildland fire response efforts. Typically, and including the 2021 season, the agency contracts with bases throughout the state to house DFFM aircraft during the peak of the wildland season. In 2021, DFFM contracted with Pierce Ag Field in Buckeye and Marana Regional Airport as the two support bases for the SEATs and Air Attack aircraft.

During 2021, the state spent \$1,990,458 in both aircraft and retardant usage as compared to \$2,003,817 the previous year.

These dollar figures do not include, DFFM's costs associated for use of the Very Large Air

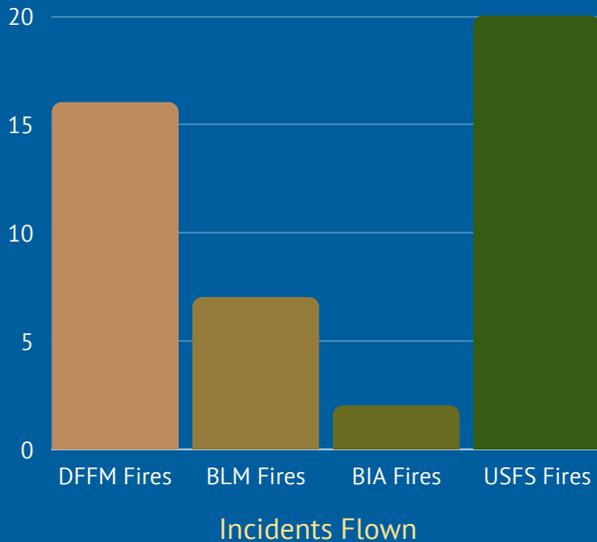
Tankers and Large Air Tankers under contractual agreement the state has with the USDA - Forest Service.



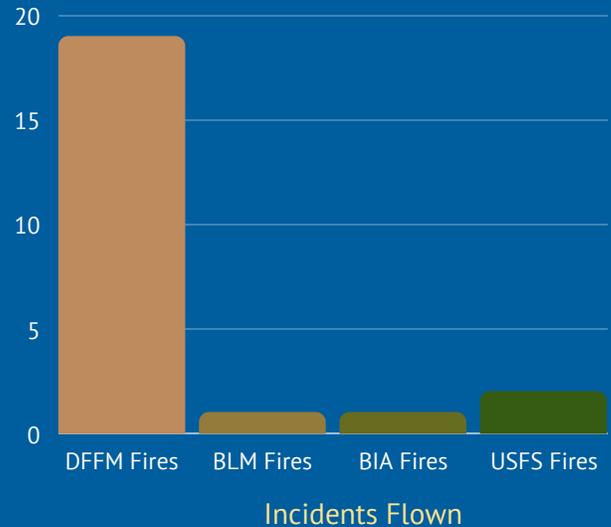
Air Attack platform surveying a fire in southern Arizona

AVIATION DATA

SINGLE ENGINE AIR TANKER (SEATS) RESPONSE



AIR ATTACK PLATFORM RESPONSE



SEATs:

Loads: 309

Flight Time: 315.38 hrs

Air Attack Platform:

Loads: 54

Flight Time: 108.83 hrs

2021 - Total Retardant Gallons Used: 218,602

2020 - Total Retardant Gallons Used: 139,552

The Department of Forestry and Fire Management enlists a Fixed Wing Aviation Program; to include, both Single Engine Air Tankers or SEATs and Air Attack Platforms. All services provided by the Very Large Air Tankers (VLATs) and Large Air Tankers (LATs) are contracted between DFFM and the USFS



PREVENTION PROGRAM

DFFM's Prevention Department is responsible for a variety of tasks, to include, community outreach and education, prevention patrols, property assessments, and the Firewise USA program. The Prevention Department is also responsible for state wildland fire investigations. DFFM investigators are trained and qualified under the National Wildland Coordinating Group guidelines.

Community Outreach - provides education through classroom instruction and attendance of public events.

Prevention Patrols - typically begin in May or when significant wildland fire activity occurs. Prevention officers are responsible for patrolling high-risk areas across Arizona. Areas notorious for wildfires, such as the US 60 Corridor - from Wittmann to Apache Junction,

Interstate 17 from Phoenix to New River into Northern Arizona. Plus, Interstate 10 south into Tucson.

The prevention team consistently interacts with the public to provide guidance and outreach in regards to wildfire prevention and public safety. In conjunction with cooperating federal agencies, patrols have significantly reduced new starts, provided for faster response to incidents, quick suppression of fires, and provided for and positive feedback and interactions with the public.

Firewise USA - DFFM provides guidance to homeowners, HOAs, neighborhood associations, and communities through the Firewise USA national program.



PREVENTION PROGRAM CONT.

The program enlists homeowners to work together to reduce fuels around their homes and common areas to aid with wildfire reduction and suppression. Prevention officers provide classroom instruction and hands-on assessments to assist new communities to come onboard. Ironically, in 2021, the community of Pine Lake - one of the state's most At-Risk communities began the process of joining the Firewise USA program. A few days before the required classroom instructions, the Flag Fire in Pine Lake forced the evacuation of the community. Fortunately, no structures were lost in the fire and months after the incident, residents were able to begin the steps necessary to join Firewise USA. And in 2021, Pine Lake became one of 12 new Firewise USA communities in Arizona.

A win for the state, as DFFM brought on the most new communities out of all southwest state forestry agencies. In total, there are 125 recognized Firewise USA communities in Arizona.

NEW AZ FIREWISE USA COMMUNITIES PER YEAR:

2016 - 4
 2017 - 12
 2018 - 15
 2019 - 16
 2020 - 5
 2021 - 12



FIREWISE USA
 RESIDENTS REDUCING WILDFIRE RISKS

PREVENTION DATA



Abandoned campfire found during a 2021 prevention patrol



Bullets, empty shell casings, and other litter found during a prevention patrol

2021 PREVENTION PATROLS (MAY 2021 - JULY 2021)

Abandoned Campfires - 6

Roadside Fires - 2

Illegal Target Shooting - 4

Public Contacts Made - 99



WILDLAND FIRE TRAINING

The Department of Forestry and Fire Management Training Division partners with fire departments and districts throughout the state to help provide necessary training and to assist with wildland fire qualifications per the National Wildland Coordinating Group standards. Wide ranges of wildland fire training courses are conducted year round for wildland firefighters and incident-support personnel. These courses offer fire professionals the opportunity to increase their knowledge and skills and earn the certifications required to move forward in their careers.



POSITIONS PROCESSED THROUGH WILDLAND FIRE QUALIFICATION COMMITTEE BY YEAR

Position Title	2018		2019		2020		2021	
	Qualified	Trainee	Qualified	Trainee	Qualified	Trainee	Qualified	Trainee
Engine Boss Positions	48	34	20	30	19	16	39	31
Other Single Resource Boss Positions	23	43	10	26	6	14	15	23
Operations Positions Above Single Resource Boss	29	28	10	26	14	13	29	24
Faller Positions	31	51	20	18	5	11	8	23
Command & General Staff Positions	22	31	15	28	12	21	22	34
Planning Positions	6	14	3	9	4	9	12	13
Logistics Positions	15	19	5	14	7	14	12	15
Finance Positions	2	2	1	1	1	0	1	2
Prescribed Burn Positions	1	1	2	2	0	0	2	2
Dispatch Positions	0	0	0	0	0	0	1	0



IN CONCLUSION

Due to the fire devastation in Gila County, the Governor signed HB 2001 during a special June session. The \$100 million bill helps the Department of Forestry and Fire Management, along with the public and private sector on a myriad of levels.

Under the bill, \$36 million is allocated for post-fire flooding mitigation projects as 2021's robust monsoon season intensified the damage in burned areas, including within the Telegraph Fire burn scar. Those monies go to help with flood mitigation needs, including helping counties with sandbags, sandbagging equipment, flooding barriers, heavy equipment and other necessities arising during those emergency incidents.

Also under HB 2001, \$25 million goes to the Arizona Healthy Forest Initiative.

An initiative designed to help treat more acres annually thus creating more safer and healthier landscapes across Arizona. Under the HFI portion of the bill, DFFM will collaborate with the Arizona Department of Corrections - Rehabilitation and Reentry to enlist hundreds of low-risk inmates to help with the statewide fuels reduction work. HB 2001 also provides DFFM with an additional \$19 million for wildfire suppression costs, \$10 million for agency capital improvement projects: to include new radio communications equipment, and \$10 million to help public and private landowners with repair costs associated with damaged infrastructure from wildfires and fire suppression activities.

IN MEMORIAM



Jeff Piechura, 62



Matthew Miller, 48

Pictures courtesy Coronado National Forest

On July 10, 2021, the wildland fire community lost two of its own when a USFS Air Attack Platform crashed while supporting a Bureau of Land Management Fire near Bagdad, Arizona

IMPORTANT LINKS

Arizona Department of Forestry and Fire Management

dffm.az.gov
1110 W. Washington Ste. 500
Phoenix, AZ 85007
602-771-1400

media@dffm.az.gov

Twitter - [@azstateforestry](https://twitter.com/azstateforestry)
facebook - Arizona Department of Forestry and Fire
Management
Instagram - [@forestryfireaz](https://www.instagram.com/forestryfireaz)

